

## Appendix H

# AC-130 Close Air Support Employment

### EXECUTION

This section identifies the basic TTP used by AC-130 aircrews to conduct CAS. Standardized tactics provide a baseline for further refinement and improvement. Commanders should adjust these procedures as the combat situation develops. Aircrews can build on these basic tactics and procedures by using innovative thinking, experience, and information from aircraft tactical manuals to improve CAS for ground combat forces.

#### En Route Tactics

For AC-130 missions the following are mandatory briefing items: in-depth threat brief, marking of friendly locations, identifiable ground features, and ground commander's willingness to accept "danger close."

- **Sensor Alignment/Wet Boresight.** The AC-130 must complete airborne sensor alignment and wet boresight (test fire) procedures before any CAS mission. Only under extreme circumstances will a CAS mission be attempted without performing a sensor alignment/wet boresight. Planners should normally allot 30 minutes for sensor alignment/wet boresight.

- **Ingress Tactics.** The main consideration in selecting en route tactics is the avoidance of enemy detection and fires. AC-130 crews conduct a threat assessment by using all available intelligence data and combine the threat assessment with terrain study to establish the ingress/egress routes, loiter areas, refueling tracks, and altitudes. Medium-altitude ingress reduces fuel consumption and simplifies navigation. When necessary, the AC-130's low-level capability allows ingress/egress through medium-threat hostile territory to arrive in a low-threat objective area.
- **Orbiting.** If no preplanned targets exist, the aircraft will normally proceed to a designated orbit area and await target assignment. Upon arrival at the orbit point, the terminal controller is contacted for ingress instructions.
- **Coordination.** The AC-130 aircrew will establish radio contact while en route to speed acquisition of friendly position(s) and authenticate the terminal controller.
- **CAS Briefing Form.** Aircrews use the AC-130 call-for-fire briefing form (figure H-1) or the standard CAS briefing form (9 line) shown in figure 4-2. In addition to the normal briefing items, the following items are mandatory for AC-130s: a detailed threat description, marking of friendly locations, identifiable ground features, and the ground commander's willingness to accept "danger close."

## Attack Phase

- **Capabilities.** The AC-130 can provide accurate CAS to ground units for extended periods of time during the day or at night. Additionally, the sensor target acquisition capabilities coupled with

ground beacon position marking give the AC-130 a limited all-weather capability.

- **Locating Friendly Positions.** One of the first considerations in the attack phase is to identify friendly positions. Various aids may be used to expedite acquisition (e.g., strobe lights, flares, or IR tape). In addition, there are several electronic beacons that may be used to assist in locating friendly forces. The AC-130 crew will maintain radio contact with the ground forces at all times during firing.
- **Considerations for Close-In Fires.** Because the gunship fire control system is very accurate, ordnance can be delivered very close to friendly positions. However, factors such as ricocheting rounds, the effects of terrain features, and burst pattern should be considered. The greatest hazard to friendly forces is the possibility of ricocheting rounds, and firing down inclined terrain can cause considerable miss distances.
- **Parameters for Attacking the Target.** The type of target, the proximity of friendly forces, and the damage already inflicted will determine the gun selection, the type of ammunition, and the number of firing orbits required to successfully attack the target.
- **Procedures.** The AC-130 has the ability to deliver firepower under conditions of low ceilings and/or poor visibility by using the APQ-150 radar and Black Crow sensors. When employing the AC-130 with radar beacons, the terminal controller gives all target ranges and bearings from the location of the beacon. The beacon should be located as close as practical to the perimeter of the friendly forces. The shorter the offset distance, the more accurate the weapons delivery. For longer offset distances, first round accuracy may be reduced. The AC-130U is not radar-beacon capable, but it is equipped with a strike radar, which gives it a true adverse-weather capability.

1. Observer/warning order: \_\_\_\_\_, This Is \_\_\_\_\_, Fire Mission, Over.  
(AC-130) (terminal controller)
2. Friendly location/mark: My Position \_\_\_\_\_ Marked By \_\_\_\_\_.  
(TRP, grid, etc.) (beacon, IR strobe, etc.)
3. Target location: \_\_\_\_\_.  
(bearing (magnetic) and range (meters), TRP, grid, etc.)
4. Target description/mark: \_\_\_\_\_, Marked By \_\_\_\_\_ Over.  
(target description) (IR pointer, tracer, etc.)
5. Remarks: \_\_\_\_\_.  
(threats, danger close clearance, restriction, "At My Command", etc.)

**As Required**

1. Clearance: Transmission of the fire mission is clearance to fire. Danger close is 600 m with 105-mm weapons and 125 m with 40-mm, 25-mm, and 20-mm weapons. For closer fire, the observer must accept responsibility for increased risk. State "Cleared Danger Close" on line five. This clearance may be preplanned.

2. At my command: Add "At My Command" on line five. The gunship will call "Ready To Fire" when ready.

3. Adjust Fire: Adjust only for marking rounds or incorrect target. Adjust from impact by giving range (meters) and cardinal (north, south, east, or west) direction.

**Don'ts**

1. Do not ask the gunship to identify colors.
2. Do not reference clock positions.
3. Do not pass run-in headings/no-fire headings.
4. Do not correct left/right or short/long.

**Figure H-1. AC-130 Call for Fire.**

**Egress**

Egress fire support coordination and deconfliction requirements are the same as those for ingress. On mission completion, aircrews follow the egress instructions and either await further mission tasking or return to base.

### NIGHT CLOSE AIR SUPPORT CONSIDERATIONS

The AC-130 gunship can provide accurate fire support for extended periods of time in a night environment. Listed below are considerations for night employment.

- **Sensors.** The AC-130H has a gated laser illuminator for narrow television (GLINT) that is associated with the LLLTV sensor system. The AC-130U has a laser illuminator assembly (LIA) that is associated with the advanced low-light television (ALLTV) sensor system. These are used as an alternate source of IR illumination and have the capability to illuminate and identify IR tape worn by friendly ground forces. The drawback of the GLINT/LIA is that it highlights the aircraft to NVD-equipped enemy forces. When using the AC-130 in a troops-in-contact situation, the friendly position should be located by using one of the following methods:
  - **Marking.** There are a number of methods for marking ground positions. One or more of these methods should be employed to help identify friendly positions.
  - **Beacons.** Electronic beacons can be used in conjunction with the radar to identify and track friendly locations. Offsets from the beacons (these should not exceed 1,500 m for the C-130H model) can be used to help identify targets or to engage targets in poor weather conditions.

- **Visual Markers.** IR/GLINT tape is a very common marker that is used on both troops and vehicles. The tape is usually a good aid in identification, but it requires the use of the GLINT/LIA and can be washed out by surrounding lights. *No more than a 1" x 1" piece of tape on top of the head-gear is needed.* Any extra tends to produce a "halo" effect on the screen. IR pointers are excellent devices for marking both the target and friendly positions. Sometimes it is effective to "snake" the IR spot from the observation point to the target. Strokes are also good marking devices, but they are an active source and therefore not optimum in some situations. Virtually any distinctive light source can also aid in the identification of ground references. Also, thermal markers, such as thermal panels, fuel tabs, fires, and so on, can be used in conjunction with the FLIR device. Thermal markers should be carefully coordinated to eliminate the possibility of ambiguous references.
- **Direction Finding (DF) Homing.** The AC-130 is capable of both VHF/FM and UHF homing. In addition, the AC-130H is equipped with the personnel locator system (PLS). This system can be useful in situations such as combat recovery, where the ground party is unsure of its exact location.
- **Radar Reflectors.** Ground parties can use omnidirectional radar reflectors to aid in covert identification of their position. If multiple reflectors are used in a predetermined pattern, they must be placed at least 10 feet apart.
- **Weather.** Weather is a critical factor when planning for all AC-130 operations. If the ceiling is below 4,500 ft AGL and the aircraft is operating below the ceiling, then only the forward weapons (20-/25-mm) are available. Below 3,000 ft AGL, no weapons are capable of providing fire support.

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